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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,966	10/02/2003	Chishio Koshimizu	7553.0019-01	6290
22852 7590 02/08/2007 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER KACKAR, RAM N	
			ART UNIT 1763	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/08/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/675,966	Applicant(s) KOSHIMIZU ET AL.	
	Examiner Ram N. Kackar	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 17-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/11/2007 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 13-15 and 17-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this case recitation of "a whole area of a bottom surface" in claim 13 is a new matter.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 13, 15, 17 and 18 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoneichi Ogahara (US 5958265).**

Yoneichi Ogahara discloses a plasma processing apparatus (Fig 1), an electrode to hold a workpiece (3), an electrically conductive ring body on the periphery of the workpiece and placed on the electrode (9 and Col 4 lines 40-49), an electrically insulating ring body at the periphery of the electrically conductive ring body (11 and Col 59-63), a thermal conductivity adjusting member between the electrode and the electrically conductive ring body attached to the conductive ring body (4 and Col 1 lines 52-59) and a means for pressure application to electrically conductive ring body towards the electrode (Electrostatic chucking conductor 91) while the pressure application means is not exposed to plasma (91 is not exposed to plasma). Ogahara further teaches good thermal contact between the correction ring (conductive ring body) and suggests electrostatic pressure or mechanical pressure as well as thermally conductive gas as an alternative or in addition (Col 6 lines 21-45) for contact improvement means.

Regarding thermal conductivity adjusting member Yoneichi Ogahara discloses that heat transfer gas between electrically conductive ring body could also be a thermal conductivity-

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adjusting member (Col 6 lines 39-45). It is known that adjustment of its pressure provides variable thermal conductivity.

Regarding claim 15: the thermal conductivity of the underneath ring would inherently follow the expression as recited in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13, 15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneichi Ogahara (US 5958265) in view of Carmichael et al (US 3904506) and Shan et al (US 5891350) as evidenced by Katsuhiko Iwabuchi (US 6022418).

Further to Yoneichi Ogahara, Carmichael et al disclose that a sheet like thermal adjusting member could be positioned under the ring with bolts (Col 15 lines 14-25) where torque on screw could apply pressure to adjust thermal conductivity as evidenced by Iwabuchi (Col 6 lines 50-61). Shan et al teach that the head of bolts should be shielded from plasma (Col 5 line3).

Therefore having a thermal conductivity member provide adjustable thermal conductivity by using the pressure applied by a screw and covering the head of the screw from plasma would have been obvious for one of ordinary skill in the art at the time of invention.

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7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneichi Ogahara (US 5958265) in view of Koshiishi et al (US Patent No. 5,919,332).

Yoneichi Ogahara teaches all limitations of the claims as discussed above except for a device for heat application to the electrically insulating ring body.

Koshiishi et al teach a plasma processing apparatus including an inner focus ring 61 (Fig. 17) and an outer focus ring 62 wherein the outer ring 62 having a conductive member 97 disposed therein for absorbing heat and heating the insulating member thereby to prevent reaction products from sticking to the insulating outer ring (column 16, lines 4-34; column 21, line 45 through column 23, line 64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the mechanism for heating the insulating outer focus ring as taught by Koshiishi et al in the apparatus of Yoneichi Ogahara so that reaction products do not stick to the outer focus ring.

Response to Amendment

Applicant's arguments filed 1/11/2007 have been fully considered but they are not persuasive.

Regarding applicant's argument about thermal conductivity adjusting member being attached to a whole area of a bottom surface, it is noted that thermal conductivity-adjusting member is disclosed to be in several forms. Fig 1-4 attaches to a bottom surface of the ring body, further heat transfer gas would have to be in contact with a bottom surface for efficient heat

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transfer and similarly a sheet of thermal conductivity member would also have to be in contact with a bottom surface for efficient heat transfer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ram Kackar
Examiner AU 1763